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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Scherzer, et al.

Serial No. : Please Assign

Filed : Herewith

For : INFRARED RADIATOR

June 14, 2001

Hon. Commissioner of Patents
and Trademarks
Washington, D.C. 20231

PRELIMINARY AMENDMENT

In advance of prosecution, please amend the above-identified patent application as follows:

IN THE CLAIMS

Cancel claims 1-16, without prejudice and add the following claims:

-- 17. Infrared radiator with a heating element containing carbon fibers and arranged in a quartz glass tube, with its ends joined to contact elements running through the wall of the quartz glass tube, characterized in that the heating element is spaced away from the wall of the quartz glass

tube, and that the heating element is centered on the axis of the quartz glass tube by means of spacers.

18. Infrared radiator according to claim 17, wherein the heating element has the form of a spiral or coiled ribbon.

19. Infrared radiator according to claim 18, wherein the inside diameter of the quartz glass tube is at least 1.5 times as great as the diameter of the spirals or coils of the heating element.

20. Infrared radiator according to claim 17, wherein the spacers are formed from molybdenum and/or tungsten and/or tantalum or an alloy of these metals.

21. Infrared radiator according to claim 17, wherein the spacers have, at least on their side facing the heating element, a length in the longitudinal direction of the heating element such that it is greater than the spaces formed in this longitudinal direction between the coils of the heating element.

22. Infrared radiator according to claim 17, wherein ceramic, especially aluminum oxide or zirconium dioxide is arranged between heating element and spacers.

23. Infrared radiator according to claim 17, wherein, the contact elements are formed of resilient material at their ends joined to the heating element.

24. Infrared radiator according to claim 17, wherein the resilient material is formed of molybdenum.

25. Infrared radiator according to claim 17, wherein the ends of the contact elements which are joined to the heating element are in the form of sleeves clutching the ends of the heating element.

26. Infrared radiator according to claim 25, wherein the sleeves are formed of molybdenum.

27. Infrared radiator according to claim 17, wherein graphite, especially as graphite paper is disposed between the ends of the heating element and the contact elements.

28. Infrared radiator according to claim 27, wherein a noble metal paste and/or a metallic coating applied to the ends of the heating element is placed between the graphite and the heating element.

29. Infrared radiator according to claim 28, wherein the metallic coating is formed of nickel or a noble metal.

30. Infrared radiator according to claim 28, wherein the metallic coating is applied galvanically.

31. Infrared radiator according to claim 17, wherein contact making parts are joined to one another by means of resistance welding or laser welding.

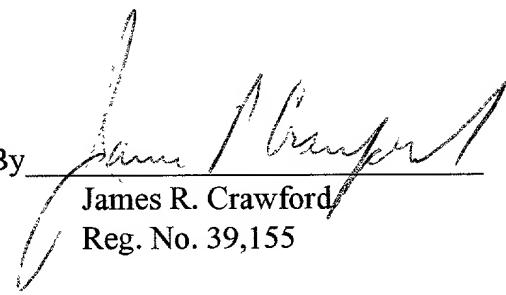
32. Method for operating an infrared radiator according to claim 17, wherein the heating element is heated to a temperature greater than 1000°C, preferably greater than 1500°C. - -

REMARKS

Entry of this amendment is respectfully requested.

Respectfully submitted,

FULBRIGHT & JAWORSKI L.L.P.

By 
James R. Crawford
Reg. No. 39,155

666 Fifth Avenue
New York, NY 10103
(212) 318-3148